



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
03.04.2013 Bulletin 2013/14

(51) Int Cl.:
B22D 29/00 (2006.01) B22D 39/06 (2006.01)
B22C 9/04 (2006.01) B22C 9/22 (2006.01)

(43) Date of publication A2:
07.09.2011 Bulletin 2011/36

(21) Application number: **10013169.7**

(22) Date of filing: **25.04.2003**

(84) Designated Contracting States:
DE FR GB

(30) Priority: **26.04.2002 US 132795**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
03721865.8 / 1 499 464

(71) Applicant: **Rolls-Royce Corporation**
Indianapolis IN 46206 (US)

(72) Inventors:
• **Frasier, Donald J.**
Indianapolis
Indiana 46268 (US)

- **Kush, Matthew**
Martinsville
Indiana 46151 (US)
- **Schlienger, Max Eric**
Napa
California 94558 (US)
- **Baldwin, Michael**
Napa
California 94558 (US)

(74) Representative: **Holmes, Matthew Peter et al**
Marks & Clerk LLP
1 New York Street
Manchester, M1 4HD (GB)

(54) **Method and apparatus for production of a cast component**

(57) A method for producing a cast component comprises forming a free form fabricated A method for producing a cast component and at least one casting form integrally ceramic casting mold with a thin outer wall and at least one casting core integrally formed with the outer wall and having a molten metal receiving cavity disposed between the outer wall and the at least one casting core. A molten metal is poured into the molten metal receiving cavity and solidified around the integral casting core.

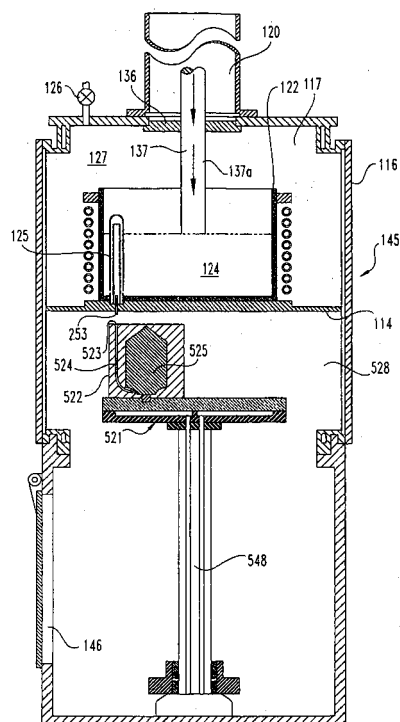


Fig. 37



EUROPEAN SEARCH REPORT

Application Number
EP 10 01 3169

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 00/51761 A (ALLISON ENGINE COMPANY, INC; FRASIER, DONALD, J; SCHLIENGER, M., ERIC;) 8 September 2000 (2000-09-08) * figures 1-56 *	1-8	INV. B22D29/00 B22D39/06 B22C9/04 B22C9/22
X	US 6 155 331 A (LANGER ET AL) 5 December 2000 (2000-12-05) * column 8, line 56 - column 15, line 28; claims 1-42 *	1-8	
A	WO 01/36315 A (ALLISON ENGINE COMPANY, INC; FRASIER, DONALD, J; SCHLIENGER, M., ERIC) 25 May 2001 (2001-05-25) * claim 1; figure 18 *	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			B22D C30B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 February 2013	Examiner Baumgartner, Robin
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

1
EPO FORM 1503, 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 01 3169

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-02-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0051761 A	08-09-2000	AT 520485 T	15-09-2011
		AU 2027000 A	21-09-2000
		CA 2351322 A1	08-09-2000
		CA 2628350 A1	08-09-2000
		CA 2663076 A1	08-09-2000
		CA 2714871 A1	08-09-2000
		EP 1152848 A1	14-11-2001
		EP 2359958 A1	24-08-2011
		EP 2359959 A1	24-08-2011
		EP 2364796 A2	14-09-2011
		JP 4903310 B2	28-03-2012
		JP 2003520134 A	02-07-2003
		JP 2010167498 A	05-08-2010
		JP 2011104657 A	02-06-2011
		JP 2011136371 A	14-07-2011
		JP 2011140068 A	21-07-2011
		JP 2011148002 A	04-08-2011
		JP 2011148003 A	04-08-2011
		WO 0051761 A1	08-09-2000
US 6155331 A	05-12-2000	AT 192367 T	15-05-2000
		AT 225222 T	15-10-2002
		CN 1128966 A	14-08-1996
		EP 0711213 A1	15-05-1996
		EP 0968776 A1	05-01-2000
		ES 2148528 T3	16-10-2000
		JP 3215881 B2	09-10-2001
		JP H08509666 A	15-10-1996
		PT 711213 E	31-10-2000
		US 6155331 A	05-12-2000
		WO 9532824 A1	07-12-1995
WO 0136315 A	25-05-2001	AU 1823800 A	30-05-2001
		WO 0136315 A1	25-05-2001

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82